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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/825,731	04/16/2004	Sanjiv G. Tewani	DP-309395	8825
7590 09/30/2005 Delphi Technologies, Inc. M/C 480-410-202 P.O. Box 5052 Troy, MI 48007-5052			EXAMINER BURCH, MELODY M	
			ART UNIT 3683	PAPER NUMBER

DATE MAILED: 09/30/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/825,731

Applicant(s)

TEWANI ET AL.

Examiner

Melody M. Burch

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3683

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 April 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>7/20/05</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-4 and 11-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 4973031 to Takano et al. in view of WIPO 01/51826 (using US Patent 6749045 to Rosenfeldt et al. as an English equivalent).

Re: claims 1-3 and 11-13. Takano et al. show in figure 14 a rheological-fluid hydraulic mount comprising: a) a hydraulic-mount partition plate assembly having first (the first side delineated by the outer, top surface of element 134 and element 132) and second (the second side delineated by the outer, bottom surface of element 136 and 132) sides, having a non-rheological-fluid first orifice 142 and a rheological-fluid second orifice 148, wherein the first orifice has a first terminus 144 disposed at the first side and a second terminus 146 disposed at the second side, and wherein the second orifice has a first end (or top of element 148) disposed at the first side and has a second end (or bottom of element 148) disposed at the second side; b) a hydraulic-mount decoupler 118 operatively connected to the first orifice via elements 130B and element 136; c) an electric means 152,152 shown in figure 12 disposed to influence the second orifice as disclosed in col. 9 lines 49-50; and d) a flexible membrane assembly having a first membrane portion 166 fluidly-isolating, on the first

side of the partition plate assembly, the first end from the first terminus and having a second membrane portion 172 fluidly-isolating, on the second side of the partition plate assembly, the second end from the second terminus. Takano et al. also include the limitation of the first end at least partially defining a hydraulic mount' rheological fluid pumping chamber shown between element 132 and element 166 and a hydraulic mount rheological fluid reservoir chamber shown between elements 132 and 172.

Takano et al. fail to include the limitation of the rheological fluid being magnetorheological fluid and the electric means being an electrical coil generating a magnetic influence.

Rosenfeldt et al. teach in col. 5 lines 24-28 the use of a mount or employing magnetorheologic fluid instead of electrorheologic fluid and the use of electric coils instead of electrodes.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the rheological fluid and the electric means of Takano et al. to have included MR fluid and an electric coil, as taught by Rosenfeldt et al., in order to provide an equally effective way of generating a change in the viscosity of the rheological fluid to generate a desired damping effect.

Re: claims 4 and 14. Takano et al., as modified, teach in figure 12 of Takano the limitation wherein the second orifice is disposed radially outward from the electric means 152,152.

3. Claims 5-6 and 15-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 4973031 to Takano et al. in view of WIPO 01/51826 (using US Patent 6749045 to Rosenfeldt et al. as an English equivalent) and US Patent 4997168 to Kato.

Takano et al., as modified, describe the invention substantially as set forth above, but do not include the limitation of the first orifice being substantially annular.

Kato teaches in col. 7 lines 17-19 the use of a mount having an orifice separating an upper and a lower chamber being in the form of a substantially annular orifice 48 that is arranged to damp vibrations in a low frequency range.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the first orifice of Takano et al., as modified, to have been formed as a substantially annular orifice, as taught by Kato, in order to provide an alternate means of providing an orifice that damps vibrations in the low frequency range.

4. Claims 1-4 and 11-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 4973031 to Takano et al. in view of WIPO 01/51826 (using US Patent 6749045 to Rosenfeldt et al. as an English equivalent), and further in view of US Patent 5273262 to Baldini et al.

Re: claims 1-3 and 11-13. In an alternate interpretation Takano et al. show in figure 14 a rheological-fluid hydraulic mount comprising: a) a hydraulic-mount partition plate assembly having first (the first side delineated by the outer, top surface of element 134 and element 132) and second (the second side delineated by the outer, bottom surface of element 136 and 132) sides, having a non-rheological-fluid

first orifice 142 and a rheological-fluid second orifice 148, wherein the first orifice has a first terminus 144 disposed at the first side and a second terminus 146 disposed at the second side, and wherein the second orifice has a first end (or top of element 148) disposed at the first side and has a second end (or bottom of element 148) disposed at the second side; c) an electric means 152,152 shown in figure 12 disposed to influence the second orifice as disclosed in col. 9 lines 49-50; and d) a flexible membrane assembly having a first membrane portion 166 fluidly-isolating, on the first side of the partition plate assembly, the first end from the first terminus and having a second membrane portion 172 fluidly-isolating, on the second side of the partition plate assembly, the second end from the second terminus. Takano et al. also include the limitation of the first end at least partially defining a hydraulic mount rheological fluid pumping chamber shown between element 132 and element 166 and a hydraulic mount rheological fluid reservoir chamber shown between elements 132 and 172.

Takano et al. fail to include the limitation of the rheological fluid being magnetorheological fluid and the electric means being an electrical coil generating a magnetic influence. Takano et al. fail to include the limitation of a decoupler operatively connected to the first orifice.

Rosenfeldt et al. teach in col. 5 lines 24-28 the use of a mount employing magnetorheologic fluid instead of electrorheologic fluid and the use of electric coils instead of electrodes.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the rheological fluid and the electric means of

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Takano et al. to have included MR fluid and an electric coil, as taught by Rosenfeldt et al., in order to provide an equally effective way of generating a change in the viscosity of the rheological fluid to generate a desired damping effect.

Baldini et al. teach in figure 1 the use of a mount employing a decoupler 48 operatively connected to a first orifice 46.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the first orifice of Takano et al., as modified, to have included a decoupler, as taught by Baldini et al., in order to provide a means of tuning the orifice for particular frequency vibration inputs without having to adjust the circumference of the actual orifice.

Re: claims 4 and 14. Takano et al., as modified, teach in figure 12 of Takano the limitation wherein the second orifice is disposed radially outward from the electric means 152, 152.

5. Claims 5-10 and 15-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 4973031 to Takano et al. in view of WIPO 01/51826 (using US Patent 6749045 to Rosenfeldt et al. as an English equivalent) and US Patent 5273262 to Baldini et al., as applied to claims 4 and 14 above, and further in view of US Patent 6412761 to Baudendistel et al.

Re: claims 5-7 and 15-17. Takano et al., as modified, describe the invention substantially as set forth above, but lack the limitation of the first orifice being substantially annular.

Baudendistel et al. teach in figure 2 the use of a first orifice of a mount being substantially annular or at least has a cross-section that is substantially annular, as broadly recited.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the cross-section of the first orifice of Takano et al., as modified, to have been substantially annular, as taught by Baudendistel et al. in order to provide a means of achieving appropriate damping characteristics as best determined by the particular application since it is old and well-known in the mount art that adjusting length and cross-sectional area adjusts damping characteristics of the orifice.

Re: claims 8 and 18. Takano et al., as modified, teach in figure 14 of Takano a flexible molded assembly having a flexible working leg 122 attached to the first side of the partition plate assembly via intervening elements and at least partially surrounding the first membrane portion of the flexible member assembly and the first terminus of the first orifice.

Re: claims 9 and 19. Takano et al., as modified, teach in figure 14 of Takano the mount including a first mounting member 124,126 attached to the flexible working leg and attachable to a first component of a vehicle. Takano et al. as modified, also show in figure 14 a hydraulic mount non-magnetorheological fluid pumping chamber 130A and further including a non-magnetorheological fluid disposed in the pumping chamber.

Re: claims 10 and 20. Takano et al., as modified, teach in figure 14 of Takano the mount also including a second mounting member 112,114 surrounding the second

membrane portion, attached to the partition plate assembly, and attachable to a second component of a vehicle.

Response to Arguments

6. Applicant's arguments filed 4/18/05 have been fully considered but they are not persuasive. Applicant argues that Takano does not disclose a hydraulic mount decoupler as required by Applicant's claims 1 and 11 since the element 118 of Takano depends on vibration frequency (and not displacement). The fact that flexible element 118 is responsive to vibration frequency does not mean that it is not a decoupler. US Patents 5730429 to Ivers et al. and 5246211 to Klein et al. teach the use of mounts having decouplers 21 and 44, respectively, that are responsive to frequency. Examiner further notes that the argument is more specific than the claim language as the claims do not make reference to what the decoupler depends on. Additionally, even if a distinction between frequency and amplitude responsive decouplers were made, Examiner notes that frequency and amplitude are related to each other through the wave equation.

With regards to the alternate rejection of Takano using the Baldini reference, Applicant argues that there is no motivation to tune for vibration frequency using a hydraulic decoupler in the first orifice since tuning using varying voltage to the electrodes associated with second orifice exists. Examiner notes that Takano strives to tune for a range of vibrations with one orifice being tuned to accommodate vibrations of lower frequencies (see col. 9 lines 29-31) and the other being tuned to accommodate vibrations of higher frequency (see col. 9 lines 37-41). Thus, Takano clearly discloses a

desire to tune the first orifice for a particular vibration level even though the second orifice is tuned by way of changing voltage levels to the electrodes to accommodate certain vibrations. Baldini is used simply to teach an alternate way of tuning the first orifice. Instead of including a fixed cross-sectional area of the first orifice, Baldini teaches the incorporation of a decoupler tuned for a particular frequency vibration input. US Patent 4679779 to Hodonsky teaches in col. 1 lines 17-24 that the use of a decoupler in place of a fixed size orifice where variable damping is desired is common practice. Examiner notes that incorporating a decoupler may prove to be a more cost-effective way of varying the tuning characteristics of an orifice (redefining what is considered to be a "low frequency vibration" depending on vehicle application, for example) than changing the cross-sectional area of the orifice.

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melody M. Burch whose telephone number is 571-272-7114. The examiner can normally be reached on Monday-Friday (6:30 AM-3:00 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles A. Marmor can be reached on 571-272-7095. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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September 26, 2005

Melody M. Buice
9/26/05